

 CFCFA Logistics Training

U.S. Transport and Logistics

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Presentation Outline

- General Information about the U.S.
- Overview of U.S. Transport System
 - Rail Transport
 - Highway Transport
 - Multimodal Transport

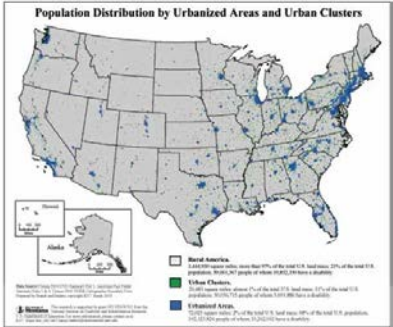
General Information About United States

- U.S. is a large country
- Land: 9,161,923 sq km (compare to China's 9,596,960 sq km)
- Distance
 - Los Angeles to NYC - 4545 km
 - Seattle to Miami - 5365 km
 - Oakland to Chicago - 3456 km
- Population - 307 million
- GDP - \$14 trillion

U.S. - A Highly Urbanized Nation

- Urban area: 239,590 sq km, 3% of land mass
 - Urban Population: 237 million, 79% of total
- Rural area: 8,922,333 sq km, 97% of land mass
 - Rural Population: 63 million, 21% of total
- Population still moving to urban areas

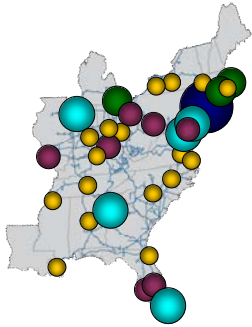
United States Population Distribution
Efficient transportation is important to serve dispersed urban population



Population Distribution by Urbanized Areas and Urban Clusters

- **Rural Areas:** 2,620,000 people, 85% of the total U.S. population, 97% of the land U.S. population, 97% of the land U.S. population.
- **Urban Clusters:** 2,620,000 people, 85% of the total U.S. population, 97% of the land U.S. population, 97% of the land U.S. population.
- **Urbanized Areas:** 2,620,000 people, 85% of the total U.S. population, 97% of the land U.S. population, 97% of the land U.S. population.

U.S. Population Distribution Drives Multimodal Usage



Eastern U.S. region holds 66% of the U.S. population

Approximately 75% of U.S. consumption takes place in the East

Projected population growth will increase volume and capacity requirements

- GT 10,000,000
- 5,000,000 – 10,000,000
- 2,500,000 – 5,000,000
- 1,500,000 – 2,500,000
- 1,000,000 – 1,500,000

U.S. is Advanced in Transport & Logistics System

- Global leader in multimodal transportation
- Highly advanced in logistics
- Excellent highway transportation system
- Well developed freight rail system
- Weak water transportation supported by subsidies & Jones Act
 - Mainly inland waterway (Ingram Barge) or short sea (Matson, Crowley)
 - Almost all deep sea carriers were acquired by foreign firms (American President Lines by NOL, Sealand by Maersk) or liquidated (US Lines)

U.S. Transport & Logistics System

- Light transport regulation (focus on antitrust, safety and insurance), augmented by industry self regulation
- No regulation targeting logistics or multimodal transportation industry
- Transport deregulation in the nineteen eighties drastically improves efficiency and lowers logistics cost
- Logistics cost as a % of GDP dropped from almost 18% to 8.3% in 2010 (Less than half of China)
- Deregulation flushed out weak carriers
 - Only 2 of the Top 50 motor carriers survived
 - Only 5 major railroads left from almost 20

U.S. Logistics Costs % of GDP is Among The Best

What Drove Logistics Costs Down from 2000 to 2004?

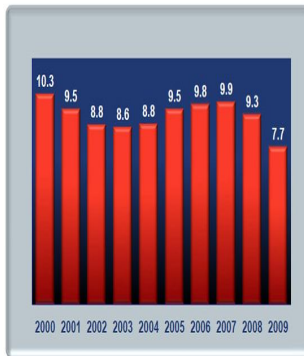
- ✓ Transportation deregulation
- ✓ Excess capacity
- ✓ Low fuel costs

What Drove Logistics Costs Up from 2005 to 2007?

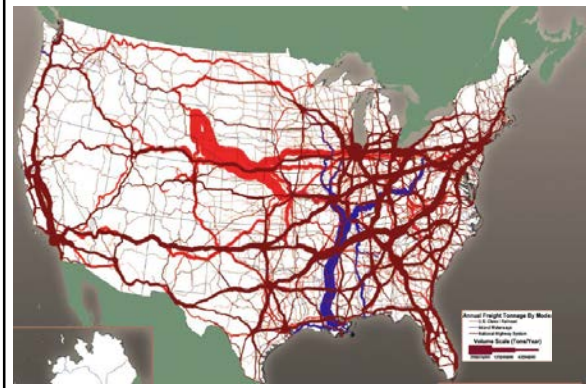
- Higher fuel costs
- Congestion
- Aging infrastructure
- Public policy
- Increasing U.S. labor cost

What Drove Logistics Costs Down from 2008 to 2009?

- Lower fuel costs
- Low interest rate
- Excess carrier capacity



U.S. Annual Freight Tonnage by Mode



U.S. Rail Transport System



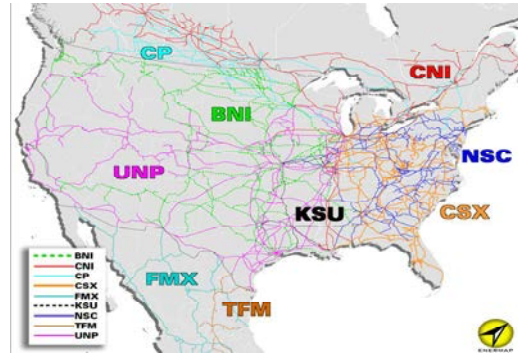
Ranking of World's Rail System (Network Length)

- United States 226,612 km
- Russia 87,157 km
- China 100,000 km
- India 63,221 km
- Canada 48,068 km

U.S. Rail Industry Structure

- Dominated by 5 major US carriers & 2 Canadian carriers (CN, CP) with large U.S. operations
 - BNSF & Union Pacific serve the West
 - Norfolk Southern & CSX serve the East
 - Kansas City Southern is the NAFTA railroad that operates the largest Mexican rail network
- Many short line and regional railroads with tiny market share

U.S. Rail System Map (Data from Morgan Stanley Research)



Current Situation of U.S. Railroads

- Unlike Chinese railroads, U.S railroads are freight oriented and offer only minimal passenger service
- After the deregulation shakeout, all major U.S. freight railroads are profitable today
- Amtrak - the only national passenger railroad, suffers huge loss every year
- Amtrak and metro passenger railroads depends on government subsidy to survive

Ownership Structure of U.S. Railroads

- Unlike Chinese railroads, U.S. railroads are all privately owned (except Amtrak)
- U.S. Government fostered rail expansion with land grants
- U.S. railroads own their tracks, right of ways and operating assets
- No vertical separation or vertical access (except as part of merger requirement or by voluntary agreement)
- Parallel competition among railroads

Major U.S. Rail Gateways & Ports

Gateways

- Chicago is the most important gateway where all major railroads connect
- Midwest - St. Louis, Kansas City
- South - Memphis, Atlanta

Ports

- West - Los Angeles (most important), Seattle/Tacoma, Oakland, Portland
- East - Port Elizabeth (most important), Charleston, Norfolk/Hampton Roads, Savannah, Miami/Port Everglades
- Gulf – Houston, New Orleans

Integrated Rail - Sea Connection



Rail Capacity Allocated By Pricing

- U.S. railroads are generally free to set transportation rates based on market forces (multimodal rates are totally free)
- Rates are set based on value of service, cost, volume commitment, capacity and competitive factors
 - Long term contract and spot pricing
 - Confidential and published rates
- Improved pricing climate supports capacity expansion & service improvements

Fast Multimodal Transit Time

- Chicago to Los Angeles (3,270 km)
 - Express intermodal trains 3rd morning (e.g. Depart 10pm Fri, arrive 5am Mon)
 - Container trains 4th day to 5th day
- Los Angeles to Chicago (3,270 km)
 - Express trailer trains 3rd day
 - Container trains 4th to 5th day
- Chicago to New Jersey (1,290 km)
 - Express trailer trains 2nd morning
 - Container trains 3rd day
- New Jersey to Chicago (1,290 km)
 - Express trailer trains 2nd morning
 - Container trains 3rd day

U.S. Highway Transport System



Ranking of World's Roadway Network

- U.S.A. 6.5 million km
- China 3.8 million km
- India 3.3 million km
- Brazil 1.8 million km
- Japan 1.3 million km

Highway Carriers Are Classified by Weight of Cargo Carried

- Truckload (TL) - generally over 10,000 lbs
 - Common (serves all shippers)
 - Contract (serves only shippers under contract)
 - Dedicated (provides customized services to a small number of shippers under contract)
- Less Than Truckload (LTL) - generally 70 to 10,000 lbs
 - Mostly Common
- Parcel – less than 70 lbs
 - Almost all are Common

Highway Carriers Are Also Classified by Type of Commodities Transported

- General Commodities (mostly in Vans)
- Household goods (high cube vans)
- Expedited (often in small vehicles)
- Perishable, Temperature Controlled (reefers)
- Bulk (hopper)
- Gas and Liquid (tank)
- Flatbed
- Heavy, oversize (low boys)
- Explosives, ammunition (travel at night, carefully screened drivers)

Current Status of Highway Carriers

- Since 1980s deregulation, all **union** TL and virtually all **union** LTL carriers have gone out of business (except YRC Worldwide, ABF)
- TL market is highly fragmented (carriers with over 1,000 trucks controlled only 16% of market)
- LTL market is concentrated in a small number of network carriers
- **Increasing rail usage in moving long distance cargo (e.g. multimodal is a core service of JB Hunt)**

JB Hunt Truck Delivering 53ft Container to Multimodal Rail Terminal



U.S. Multimodal Transportation



U.S. Multimodal Transport Development

- Intermodal marketing companies and domestic freight forwarders are pioneers in multimodal transport development
- APL open the way for ocean carriers to play a key role in multimodal transport growth
- JB Hunt's partnership with BNSF led the shift of long distance transport from highway to rail
- Outsourcing of terminal operations reduced both fixed & variable cost and diminished capital investment
- Railroads now embraced multimodal transport as a core business

Double Stacked Train of 53 ft JB Hunt Domestic Containers



Dedicated Train of 53 ft RoadRailers



Container Coupled with Chassis Moving as Trailers to Reduce Transit Time



Norfolk & Southern RoadRailer



Norfolk & Southern RoadRailer



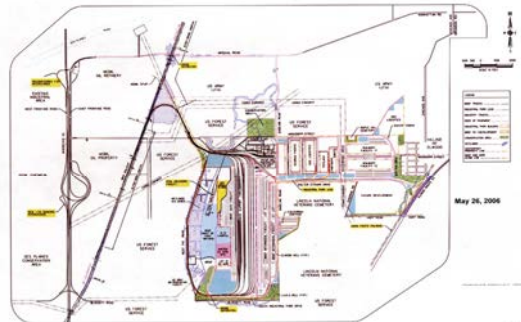
FedEx Trailer with Side Skirt to Reduce Drag



Trailers Lifted Onto Flat Wagon at BNSF Willow Springs Multimodal Hub



BNSF Logistics Park Chicago (LPC) Multimodal Hub Design



Aerial View of LPC Integrated Logistics Park/Multimodal Hub



BNSF LPC Multimodal Hub



BNSF Multimodal Hub Automated Gate Control



WalMart Logistics Center Near BNSF LPC



New UP Multimodal Hub North of BNSF LPC



New UP Multimodal Hub North of BNSF LPC



New UP Multimodal Hub North of BNSF LPC



Спасибо! Thank you! 谢谢 !

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